E. G. WATROUS.

WATER CLOSET.

APPLICATION FILED JULY 22, 1910.

1,040,474. Patented Oct. 8, 1912.

Fig. 1.

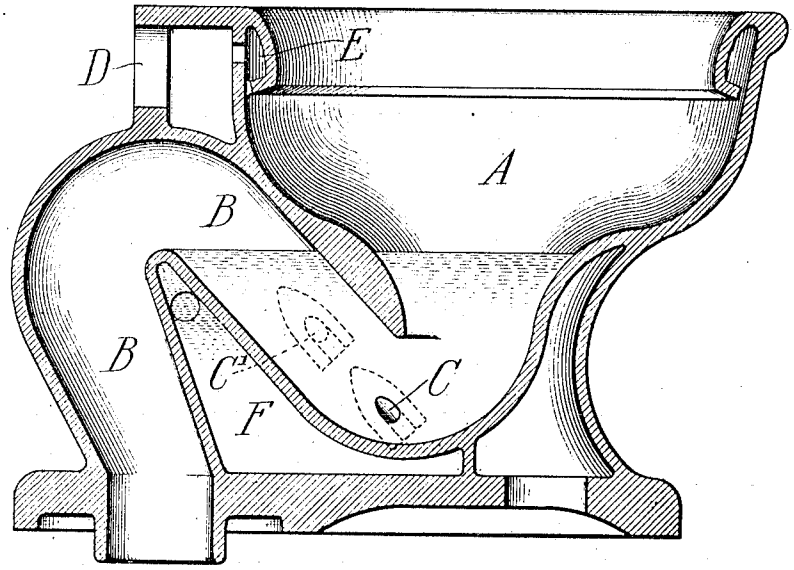


Fig. 2.

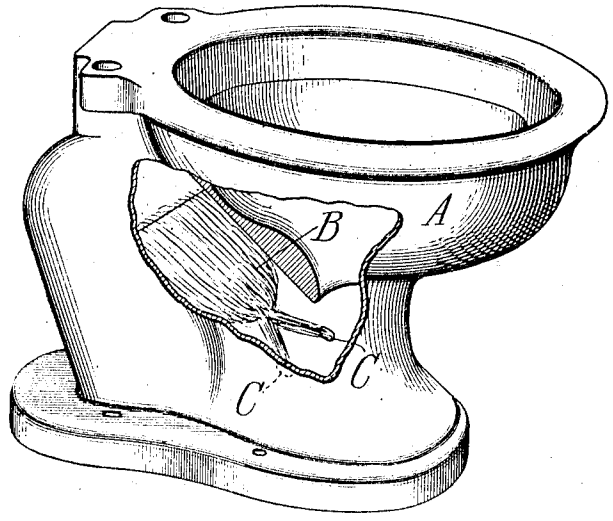
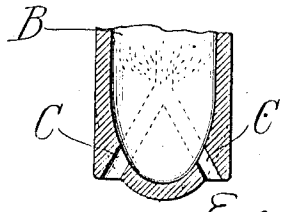


Fig. 3.



Witnesses
Martin H. Olsen
Robert Dobberman

Inventor
Earl G. Watrous
By Rector Hibben, Davis & Macauley
His Attys

UNITED STATES PATENT OFFICE.

EARL G. WATROUS, OF CHICAGO, ILLINOIS.

WATER-CLOSET.

1,040,474. Specification of Letters Patent. Patented Oct. 8, 1912.

Application filed July 22, 1910. Serial No. 573,191.

To all whom it may concern:

Be it known that I, EARL G. WATROUS, a citizen of the United States, residing at Chicago, in the State of Illinois, have invented certain new and useful Improvements in Water-Closets, of which the following is a description, reference being had to the accompanying drawings, forming part of this specification.

My invention has for its object the provision of novel and improved means for flushing the bowl of such closets, and is an improvement upon the closet heretofore patented to me by Letters Patent No. 804,644, dated Nov. 14th, 1905, in the sense that, while the construction of my present closet resembles in some respects that of my former one, it is such that the flushing of the closet is accomplished more quickly and certainly, and at the same time with a less supply of water.

My present invention, like my former one, is equally applicable to closets having a rearward discharge and to closets having a downward discharge, although in the drawings of my present application I have illustrated only the latter form of closet.

In said drawings Figure 1 is a middle vertical section of the closet; Fig. 2 a perspective of the closet with part of its wall broken away to show the operation of the flushing action within it; and Fig. 3 a transverse sectional detail through the lower pair of jet-openings of Fig. 1.

The same letters of reference are used to indicate identical parts in the several views.

The characteristic feature of my invention, and its essential novelty, consists in the provision of a pair of opposed jet-openings formed in the lower portion of the closet bowl, on opposite sides of and below the lower end or mouth of the up-leg of the discharge passage, and directed upward and inward toward the longitudinal center or axial line of said passage at such an angle that the two streams of water issuing from said jet-openings will come in contact with each other below the water level therein and form a spray or diffused body of water which will approximately fill the up-leg of the discharge passage, the effect being to force the body of water normally resting in said passage bodily outward through the passage and to cause the liquid and solid contents of the bowl to be entrained behind it and drawn out and discharged through the passage with a powerful and almost instantaneous flushing action.

In the accompanying drawings, A represents the closet bowl, B the discharge passage, and C the pair of opposing jet-openings in the bottom of the closet bowl. The water supply is admitted to the closet at D, whence part of it passes to the rim E, and thence through the small orifices of the latter to the interior of the bowl, while the remainder (and principal portion) enters what may be termed the jet-supply chamber F beneath and partially around the up-leg of the discharge passage, whence it passes through the jet-openings C C and is directed by them upward and inward toward the longitudinal center of the passage in such manner that the two opposing streams come in contact with each other and form a flaring volume of spray which approximately fills the up-leg of the discharge passage, as indicated in Fig. 2, and produces the result above described.

I have found, by tests and practical use of my new closet, that the provision of the two opposed jet-openings, coöperating with each other as described, produces a more powerful flushing action than that obtained in my former closet above mentioned, whereby the closet may be flushed of its liquid and solid contents more quickly and certainly and thoroughly than before, and with a less quantity of water.

A further advantage of my present construction over my former one is that it does not require any contraction of the up-leg of the discharge passage, which may be of uniform size from its lower end or mouth to its upper or discharge end. In neither my present nor my former construction is any contraction of the down-leg of the discharge passage required, as in the case of the ordinary siphon closet in which the contraction of the down-leg of the siphon, or the obstructions located therein, for the purpose of facilitating the formation of the "plug" of water necessary to the siphonic operation of the closet, tends to produce clogging of the closet and often causes it to become stopped up with foreign matter carelessly thrown into the closet bowl.

In both of my closets, and particularly in my present one, the free and unobstructed character of the discharge passage, and the powerful flushing action produced by the jets, enables the closet to instantly rid

itself of anything thrown into the bowl which is not of itself too large to be forced through the discharge passage.

By supplementing the lower pair of opposed jet-openings C C with a second pair of similar openings C′ C′, located approximately midway between the openings C C and the normal water level in the up-leg of the discharge passage, as indicated in dotted lines in Fig. 1, the quickness and force of the flushing action of the closet may be still further increased, the jets of water issuing from the supplemental pair of openings in such case serving to lift and force upward and outward the upper portion of the body of water in said passages and thereby to that extent relieve the streams of water entering by the lower pair of jets of a portion of such work, with the result of establishing the flushing action more quickly and rendering it more powerful than where only a single pair of jet-openings is employed.

Having thus fully described my invention, I claim:

1. In a water-closet, the combination, with a discharge-passage leading upward and rearward from the bottom of the closet bowl, of a pair of opposed jet-openings formed in the lower portion of the bowl below and on opposite sides of the lower end or mouth of said discharge passage and directed upward and inward toward the longitudinal axis of said passage at such an angle as to cause the two streams of water issuing from them to come into contact and commingle with each other below the water level in said passage and force the body of water in said passage outward through the same; substantially as described.

2. In a water-closet, the combination, with a discharge-passage leading upward and rearward from the bottom of the closet bowl, of a pair of opposed jet-openings formed in the lower portion of the bowl below and on opposite sides of the lower end or mouth of said discharge passage and directed upward and inward toward the longitudinal axis of said passage at such an angle as to cause the two streams of water issuing from them to come into contact and commingle with each other below the water level in said passage, and a supplemental pair of similar jet-openings formed in the side walls of the discharge passage between the normal water level therein and the first mentioned pair of jet-openings; substantially as described.

EARL G. WATROUS.

Witnesses:
EDWARD RECTOR,
LOUIS B. ERWIN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."